

App. Serial No. 10/509,564
Docket No.: NL020287 US

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In the Claims:

Please amend claims 1-5 as indicated below. This listing of claims replaces all prior versions.

1. (*Currently Amended*) Ballast circuit for operating a gas discharge lamp, comprising
a half-bridge DC-AC converter having a voltage controlled oscillator for
alternating switching the two switches of said half-bridge, said oscillator having an input
with a control voltage which determines the an operating frequency of said half-bridge;
a resonance circuit connected to said half-bridge for feeding the lamp; and
a feedback circuit connected at a first end to said resonance circuit for adjusting
the operating frequency of said half-bridge,
characterized in that
the other end of said feedback circuit is connected to the input of said voltage
controlled oscillator and designed such that during at least a substantial part of the a start-
up period of the lamp an equilibrium exists wherein the half-bridge frequency is at least
nearly equal to the a resonance frequency and the a half-bridge voltage is forced to
operate at last nearly in phase with the a half-bridge current.
2. (*Currently Amended*) Ballast circuit according to claim 1, characterized in that the
first end of the feedback circuit is connected to the a serial connection between the two
switches of the half-bridge.
3. (*Currently Amended*) Ballast circuit according to claims 1 or 2, characterized in that
said oscillator input is further connected to a current supply and a capacitor, wherein said
equilibrium is determined by said currently supply loading said capacitor, and said
feedback circuit at least partially unloading said capacitor each half-bridge switching
cycle.
4. (*Currently Amended*) Ballast circuit according to claim 3 ~~any of the previous claims~~,
characterized in that the ballast circuit is integrated in an IC.

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5. (*Currently Amended*) Lamp driver for operating a gas discharge lamp comprising the using a ballast circuit, the lamp driver comprising: according any of the previous claims: a half-bridge DC-AC converter having a voltage controlled oscillator for alternating switching two switches of said half-bridge, said oscillator having an input with a control voltage which determines an operating frequency of said half-bridge;

a resonance circuit connected to said half-bridge for feeding the lamp; and
a feedback circuit connected at a first end to said resonance circuit for adjusting the operating frequency of said half-bridge,

characterized in that

the other end of said feedback circuit is connected to the input of said voltage controlled oscillator and designed such that during at least a substantial part of a start-up period of the lamp an equilibrium exists wherein the half-bridge frequency is at least nearly equal to a resonance frequency and a half-bridge voltage is forced to operate at last nearly in phase with a half-bridge current.

6. (*New*) The lamp driver according to claim 5, characterized in that the first end of the feedback circuit is connected to a serial connection between the two switches of the half-bridge.

7. (*New*) The lamp driver according to claim 5 or 6, characterized in that said oscillator input is further connected to a current supply and a capacitor, wherein said equilibrium is determined by said current supply loading said capacitor, and said feedback circuit at least partially unloading said capacitor each half-bridge switching cycle.

8. (*New*) The lamp driver according to claim 7, characterized in that the ballast circuit is integrated in an IC.